



**COUNTY OF ORANGE  
HEALTH CARE AGENCY**

**PUBLIC HEALTH  
EPIDEMIOLOGY & ASSESSMENT**

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To: Orange County Physicians, Infection Control Practitioners, and other Healthcare Providers  
From: Michele Cheung, MD, MPH, and Hildy Meyers, MD, MPH

**First Human—and Fatal—West Nile Virus Case in Orange County**

A 57 year-old Orange County resident has been diagnosed with West Nile Virus (WNV) encephalitis. Birds and mosquitoes in many areas of the County have also tested positive for WNV. Physicians throughout Orange County should have a heightened index of suspicion for WNV infection and submit specimens from suspected cases for testing. **In particular, testing for WNV should be done on the following patients:**

- all hospitalized patients with encephalitis
- all hospitalized patients with acute flaccid paralysis
- all hospitalized adults ( $\geq 18$  years of age) with aseptic meningitis

**WNV testing should also be considered in select patients <18 years of age with aseptic meningitis (especially with negative enterovirus polymerase chain reaction (PCR) and/or exposure to mosquitoes) and select patients with prolonged febrile illness (fever and headache  $\geq 7$  days).**

Diagnosis is best made by serology (IgM or acute and convalescent IgG) for WNV. In some cases, confirmatory testing is necessary with plaque reduction neutralization tests (PRNT) to rule out cross-reactivity with other flaviviruses. Serology may be negative early in the course of disease (especially within the first week after onset of symptoms in WN fever patients), therefore repeat serology in 3-5 days may be helpful if there is a strong clinical suspicion. PCR of CSF for enterovirus is helpful to rule out this more common diagnosis in patients with aseptic meningitis and/or encephalitis in the summer and fall. Orange County Epidemiology ((714) 834-8180) may be able to assist with testing of possible WNV cases, and WNV testing is now also available in some commercial laboratories. Making the diagnosis of WNV infection can spare the patient unnecessary treatment for other conditions in the differential.

Our previous alerts have focused on neuroinvasive disease (aseptic meningitis, encephalitis, flaccid paralysis, and other neurologic manifestations) with WNV. However, experience with West Nile Fever (WNF) in Colorado last summer suggests WNF may not always be a mild illness, and prolonged fevers >7 days with headaches, myalgias, fatigue, and weakness may occur. Physicians should advise patients to be reevaluated if not improving, if symptoms are getting worse, and/or if neurologic signs are developing.

Encephalitis and meningitis of suspected infectious causes are reportable conditions under California law. Cases should be reported within one working day to Orange County Epidemiology at (714) 834-8180.

**Additional information**

**Orange County Epidemiology:** <http://www.ochealthinfo.com/epi/wnv/index.htm>

**Centers for Disease Control & Prevention (CDC):**

<http://www.cdc.gov/ncidod/dvbid/westnile/index.htm>

[http://www.cdc.gov/ncidod/dvbid/westnile/clinical\\_guidance.htm](http://www.cdc.gov/ncidod/dvbid/westnile/clinical_guidance.htm)

Evaluation of Infants Born to Mothers Infected With West Nile Virus During Pregnancy

(<http://www.cdc.gov/ncidod/dvbid/westnile/congenitalinterimguidelines.htm>)

**Medline WNV information:**

<http://www.nlm.nih.gov/medlineplus/westnilevirus.html>